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(54) Title: COMPOSITIONS AND METHODS FOR TREATING CANCER

(57) Abstract: Methods of treating individuals identified as having cancer using ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of inducing apoptosis in cancer cells using an ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of treating an individual who has cancer comprising the steps of identifying the cancer as having a high rate of aerobic glycolysis, and administering an ATP citrate lyase inhibitor and/or tricarboxylate transporter inhibitor are disclosed. Methods of treating individuals who have cancer using compounds that inhibit the expression of ATP citrate lyase or tricarboxylate transporter are disclosed. Methods of identifying a compound with anticancer activity are disclosed.